

CLAIMS

1. A semiconductor device comprising:
 - a substrate body;
 - a plurality of external contact terminals
 - 5 formed of springy wires, said external terminals arranged on and extending from said substrate body;
 - each of said external contact terminals having a base end connected to said substrate body and a tip end apart from said base end; and
 - 10 each of said external contact terminals being plated, at least, or said tip end thereof with multiple-layered films which are removable by an etching treatment.
2. A semiconductor device as set forth in claim 1,
 - 15 wherein said springy wire is formed of gold, and said multiple-layered films comprise a nickel or nickel alloy film formed on the surface of the wire, and a gold film and a palladium film alternately formed thereon.
3. A semiconductor device as set forth in claim 1,
 - 20 wherein said springy wire is formed of gold, and said multiple-layered films comprise a nickel or nickel alloy film formed on the surface of the wire, and a gold film and an indium film alternately formed thereon.
4. A semiconductor device comprising:
 - 25 a substrate body;
 - a plurality of external contact terminals
 - formed of springy wires, said external terminals arranged on and extending from said substrate body;
 - each of said external contact terminals
 - 30 having a base end connected to said substrate body and a tip end apart from said base end;
 - an insulating resin layer formed on said substrate body in such a manner that at least a portion including said tip end is exposed from said insulating resin layer; and
 - 35 each of said external contact terminals being plated at least said exposed portion thereof with

multiple films which are removable by an etching treatment.

5 5. A semiconductor device as set forth in claim 4, wherein said springy wires is formed of gold, and said multiple-layered films comprise a nickel or nickel alloy formed on a surface of the wire, and a gold film and a palladium film alternately formed thereon.

10 6. A semiconductor device as set forth in claim 4, wherein said springy wires is formed of gold, and said multiple-layered films comprise a nickel or nickel alloy formed on a surface of the wire, and a gold film and a indium film alternately formed thereon.

15 7. A semiconductor device as set forth in claim 4, wherein said insulating resin is an elastomeric material, such as silicone rubber.

20 8. A method of using a semiconductor device, said device a substrate body; a plurality of external contact terminals formed of springy wires, said external terminals arranged on and extending from said substrate body; each of said external contact terminals having a base end connected to said substrate body and a tip end apart from said base end; and each of said external contact terminals being plated at least said tip end thereof with multiple films which are removable by an etching treatment; said method comprising:

25 removing said plated film by an etching treatment in accordance with a degree of contamination of the tip end; and

30 rinsing this semiconductor device to reuse the same.